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<110> Cadus Pharmaceutical Corporation

<120> YEAST CELLS EXPRESSING MODIFIED G PROTEINS AND METHODS  
OF USE THEREFOR

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<150> USSN 08/689,172

<151> 1996-08-06

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| 1   | 5   | 10  | 15  |     |     |     |     |     |     |     |     |     |
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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|     |     |     | 20  |     |     |     | 25  |     |     |     |     |



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Gln

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35 40 45

Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
50 55 60

His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
65 70 75 80

Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
85 90 95

Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
100 105 110

Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
115 120 125

Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
130 135 140

Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
145 150 155 160

Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
165 170 175

Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu  
180 185 190

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ala | Asp | Arg | Asn | Asn | Ser | Ser | Arg | Ile | Asn | Leu | Gln | Asp | Ile | Cys |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Asp | Leu | Asn | Gln | Glu | Gly | Asp | Asp | Gln | Met | Phe | Val | Arg | Lys | Thr |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Arg | Glu | Ile | Gln | Gly | Gln | Asn | Arg | Arg | Asn | Leu | Ile | His | Glu | Asp |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Ala | Lys | Ala | Ile | Lys | Gln | Leu | Trp | Asn | Asn | Asp | Lys | Gly | Ile | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gln | Cys | Phe | Ala | Arg | Ser | Asn | Glu | Phe | Gln | Leu | Glu | Gly | Ser | Ala | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Tyr | Tyr | Phe | Asp | Asn | Ile | Glu | Lys | Phe | Ala | Ser | Pro | Asn | Tyr | Val | Cys |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Asp | Glu | Asp | Ile | Leu | Lys | Gly | Arg | Ile | Lys | Thr | Thr | Gly | Ile | Thr |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Glu | Thr | Glu | Phe | Asn | Ile | Gly | Ser | Ser | Lys | Phe | Lys | Val | Leu | Asp | Ala |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gly | Gly | Gln | Arg | Ser | Glu | Arg | Lys | Lys | Trp | Ile | His | Cys | Phe | Glu | Gly |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ile | Thr | Ala | Val | Leu | Phe | Val | Leu | Ala | Met | Ser | Glu | Tyr | Asp | Gln | Met |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Leu | Phe | Glu | Asp | Glu | Arg | Val | Asn | Arg | Met | His | Glu | Ser | Ile | Met | Leu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Phe | Asp | Thr | Leu | Leu | Asn | Ser | Lys | Trp | Phe | Lys | Asp | Thr | Pro | Phe | Ile |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Leu | Phe | Leu | Asn | Lys | Ile | Asp | Leu | Phe | Glu | Glu | Lys | Val | Lys | Ser | Met |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     |     | 400 |
| Pro | Ile | Arg | Lys | Tyr | Phe | Pro | Asp | Tyr | Gln | Gly | Arg | Val | Gly | Asp | Ala |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Glu | Ala | Gly | Leu | Lys | Tyr | Phe | Glu | Lys | Ile | Phe | Leu | Ser | Leu | Asn | Lys |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Thr | Asn | Lys | Pro | Ile | Tyr | Val | Lys | Arg | Thr | Cys | Ala | Thr | Asp | Thr | Gln |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Thr | Met | Lys | Phe | Val | Leu | Ser | Ala | Val | Thr | Asp | Leu | Ile | Ile | Gln | Gln |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Asn | Leu | Lys | Asp | Cys | Gly | Leu | Phe |     |     |     |     |     |     |     |     |
| 465 |     |     |     |     |     | 470 |     |     |     |     |     |     |     |     |     |

<210> 108

<211> 472

<212> PRT

<213> Chimaera sp.

<400> 108

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Cys | Thr | Val | Ser | Thr | Gln | Thr | Ile | Gly | Asp | Glu | Ser | Asp | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Leu | Gln | Asn | Lys | Arg | Ala | Asn | Asp | Val | Ile | Glu | Gln | Ser | Leu | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Glu | Lys | Gln | Arg | Asp | Lys | Asn | Glu | Ile | Lys | Leu | Leu | Leu | Leu | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Gly | Glu | Ser | Gly | Lys | Ser | Thr | Val | Leu | Lys | Gln | Leu | Lys | Leu | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Gln | Gly | Gly | Phe | Ser | His | Gln | Glu | Arg | Leu | Gln | Tyr | Ala | Gln | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Trp | Ala | Asp | Ala | Ile | Gln | Ser | Met | Lys | Ile | Leu | Ile | Ile | Gln | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Lys | Leu | Gly | Ile | Gln | Leu | Asp | Cys | Asp | Asp | Pro | Ile | Asn | Asn | Lys |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Leu | Phe | Ala | Cys | Lys | Arg | Ile | Leu | Leu | Lys | Ala | Lys | Ala | Leu | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Tyr | Ile | Asn | Ala | Ser | Val | Ala | Gly | Gly | Ser | Asp | Phe | Leu | Asn | Asp | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Leu | Lys | Tyr | Ser | Glu | Arg | Tyr | Glu | Thr | Arg | Arg | Arg | Val | Gln | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Gly | Arg | Ala | Lys | Ala | Ala | Phe | Asp | Glu | Asp | Gly | Asn | Ile | Ser | Asn |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Lys | Ser | Asp | Thr | Asp | Arg | Asp | Ala | Glu | Thr | Val | Thr | Gln | Asn | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Ala | Asp | Arg | Asn | Asn | Ser | Ser | Arg | Ile | Asn | Leu | Gln | Asp | Ile | Cys |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Asp | Leu | Asn | Gln | Glu | Gly | Asp | Asp | Gln | Met | Phe | Val | Arg | Lys | Thr |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Arg | Glu | Ile | Gln | Gly | Gln | Asn | Arg | Arg | Asn | Leu | Ile | His | Glu | Asp |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Ala | Lys | Ala | Ile | Lys | Gln | Leu | Trp | Asn | Asn | Asp | Lys | Gly | Ile | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gln | Cys | Phe | Ala | Arg | Ser | Asn | Glu | Phe | Gln | Leu | Glu | Gly | Ser | Ala | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Tyr | Tyr | Phe | Asp | Asn | Ile | Glu | Lys | Phe | Ala | Ser | Pro | Asn | Tyr | Val | Cys |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
 290 295 300  
 Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
 305 310 315 320  
 Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
 325 330 335  
 Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
 340 345 350  
 Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
 355 360 365  
 Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
 370 375 380  
 Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
 385 390 395 400  
 Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
 405 410 415  
 Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
 420 425 430  
 Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
 435 440 445  
 Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
 450 455 460  
 Asn Leu Lys Glu Tyr Asn Leu Val  
 465 470

<210> 109  
 <211> 472  
 <212> PRT  
 <213> Chimaera sp.

<400> 109  
 Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
 1 5 10 15  
 Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
 20 25 30  
 Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly  
 35 40 45  
 Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
 50 55 60  
 His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
 65 70 75 80

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Ile | Trp | Ala | Asp | Ala | Ile | Gln | Ser | Met | Lys | Ile | Leu | Ile | Ile | Gln | Ala |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Arg | Lys | Leu | Gly | Ile | Gln | Leu | Asp | Cys | Asp | Asp | Pro | Ile | Asn | Asn | Lys |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Asp | Leu | Phe | Ala | Cys | Lys | Arg | Ile | Leu | Leu | Lys | Ala | Lys | Ala | Leu | Asp |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Tyr | Ile | Asn | Ala | Ser | Val | Ala | Gly | Gly | Ser | Asp | Phe | Leu | Asn | Asp | Tyr |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Val | Leu | Lys | Tyr | Ser | Glu | Arg | Tyr | Glu | Thr | Arg | Arg | Arg | Val | Gln | Ser |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |  |
| Thr | Gly | Arg | Ala | Lys | Ala | Ala | Phe | Asp | Glu | Asp | Gly | Asn | Ile | Ser | Asn |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Val | Lys | Ser | Asp | Thr | Asp | Arg | Asp | Ala | Glu | Thr | Val | Thr | Gln | Asn | Glu |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Asp | Ala | Asp | Arg | Asn | Asn | Ser | Ser | Arg | Ile | Asn | Leu | Gln | Asp | Ile | Cys |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Lys | Asp | Leu | Asn | Gln | Glu | Gly | Asp | Asp | Gln | Met | Phe | Val | Arg | Lys | Thr |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Ser | Arg | Glu | Ile | Gln | Gly | Gln | Asn | Arg | Arg | Asn | Leu | Ile | His | Glu | Asp |  |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |  |
| Ile | Ala | Lys | Ala | Ile | Lys | Gln | Leu | Trp | Asn | Asn | Asp | Lys | Gly | Ile | Lys |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Gln | Cys | Phe | Ala | Arg | Ser | Asn | Glu | Phe | Gln | Leu | Glu | Gly | Ser | Ala | Ala |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Tyr | Tyr | Phe | Asp | Asn | Ile | Glu | Lys | Phe | Ala | Ser | Pro | Asn | Tyr | Val | Cys |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Thr | Asp | Glu | Asp | Ile | Leu | Lys | Gly | Arg | Ile | Lys | Thr | Thr | Gly | Ile | Thr |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Glu | Thr | Glu | Phe | Asn | Ile | Gly | Ser | Ser | Lys | Phe | Lys | Val | Leu | Asp | Ala |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |  |
| Gly | Gly | Gln | Arg | Ser | Glu | Arg | Lys | Lys | Trp | Ile | His | Cys | Phe | Glu | Gly |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
| Ile | Thr | Ala | Val | Leu | Phe | Val | Leu | Ala | Met | Ser | Glu | Tyr | Asp | Gln | Met |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Leu | Phe | Glu | Asp | Glu | Arg | Val | Asn | Arg | Met | His | Glu | Ser | Ile | Met | Leu |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Phe | Asp | Thr | Leu | Leu | Asn | Ser | Lys | Trp | Phe | Lys | Asp | Thr | Pro | Phe | Ile |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Leu | Phe | Leu | Asn | Lys | Ile | Asp | Leu | Phe | Glu | Glu | Lys | Val | Lys | Ser | Met |  |

385                      390                      395                      400  
 Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
                                  405                      410                      415  
 Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
                                  420                      425                      430  
 Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
                                  435                      440                      445  
 Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
                                  450                      455                      460  
 Asn Leu Lys Asp Ile Met Leu Gln  
 465                      470  
  
 <210> 110  
 <211> 472  
 <212> PRT  
 <213> Chimaera sp.  
  
 <400> 110  
 Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
   1                                    5                                    10                                    15  
 Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
                                   20                                    25                                    30  
 Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Leu Gly  
                                   35                                    40                                    45  
 Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
                                   50                                    55                                    60  
 His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
   65                                    70                                    75                                    80  
 Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
                                   85                                    90                                    95  
 Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
                                   100                                    105                                    110  
 Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
                                   115                                    120                                    125  
 Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
   130                                    135                                    140  
 Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
   145                                    150                                    155                                    160  
 Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
                                   165                                    170                                    175  
 Val Lys Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu





<211> 472

<212> PRT

<213> Chimaera sp.

<400> 111

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Gly | Cys | Thr | Val | Ser | Thr | Gln | Thr | Ile | Gly | Asp | Glu | Ser | Asp | Pro |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Phe | Leu | Gln | Asn | Lys | Arg | Ala | Asn | Asp | Val | Ile | Glu | Gln | Ser | Leu | Gln |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Leu | Glu | Lys | Gln | Arg | Asp | Lys | Asn | Glu | Ile | Lys | Leu | Leu | Leu | Leu | Gly |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Ala | Gly | Glu | Ser | Gly | Lys | Ser | Thr | Val | Leu | Lys | Gln | Leu | Lys | Leu | Leu |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| His | Gln | Gly | Gly | Phe | Ser | His | Gln | Glu | Arg | Leu | Gln | Tyr | Ala | Gln | Val |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Ile | Trp | Ala | Asp | Ala | Ile | Gln | Ser | Met | Lys | Ile | Leu | Ile | Ile | Gln | Ala |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |  |
| Arg | Lys | Leu | Gly | Ile | Gln | Leu | Asp | Cys | Asp | Asp | Pro | Ile | Asn | Asn | Lys |  |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Asp | Leu | Phe | Ala | Cys | Lys | Arg | Ile | Leu | Leu | Lys | Ala | Lys | Ala | Leu | Asp |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Tyr | Ile | Asn | Ala | Ser | Val | Ala | Gly | Gly | Ser | Asp | Phe | Leu | Asn | Asp | Tyr |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Val | Leu | Lys | Tyr | Ser | Glu | Arg | Tyr | Glu | Thr | Arg | Arg | Arg | Val | Gln | Ser |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Thr | Gly | Arg | Ala | Lys | Ala | Ala | Phe | Asp | Glu | Asp | Gly | Asn | Ile | Ser | Asn |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |
| Val | Lys | Ser | Asp | Thr | Asp | Arg | Asp | Ala | Glu | Thr | Val | Thr | Gln | Asn | Glu |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Asp | Ala | Asp | Arg | Asn | Asn | Ser | Ser | Arg | Ile | Asn | Leu | Gln | Asp | Ile | Cys |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Lys | Asp | Leu | Asn | Gln | Glu | Gly | Asp | Asp | Gln | Met | Phe | Val | Arg | Lys | Thr |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Ser | Arg | Glu | Ile | Gln | Gly | Gln | Asn | Arg | Arg | Asn | Leu | Ile | His | Glu | Asp |  |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Ile | Ala | Lys | Ala | Ile | Lys | Gln | Leu | Trp | Asn | Asn | Asp | Lys | Gly | Ile | Lys |  |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |  |
| Gln | Cys | Phe | Ala | Arg | Ser | Asn | Glu | Phe | Gln | Leu | Glu | Gly | Ser | Ala | Ala |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Tyr | Tyr | Phe | Asp | Asn | Ile | Glu | Lys | Phe | Ala | Ser | Pro | Asn | Tyr | Val | Cys |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |  |

Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr  
 290 295 300  
 Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala  
 305 310 315 320  
 Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly  
 325 330 335  
 Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met  
 340 345 350  
 Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu  
 355 360 365  
 Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile  
 370 375 380  
 Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
 385 390 395 400  
 Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
 405 410 415  
 Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
 420 425 430  
 Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
 435 440 445  
 Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
 450 455 460  
 Asn Leu Lys Gln Leu Met Leu Gln  
 465 470

<210> 112  
 <211> 472  
 <212> PRT  
 <213> Chimaera sp.

<400> 112  
 Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
 1 5 10 15  
 Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
 20 25 30  
 Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly  
 35 40 45  
 Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
 50 55 60  
 His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
 65 70 75 80

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Trp | Ala | Asp | Ala | Ile | Gln | Ser | Met | Lys | Ile | Leu | Ile | Ile | Gln | Ala | 85  | 90  | 95  |
| Arg | Lys | Leu | Gly | Ile | Gln | Leu | Asp | Cys | Asp | Asp | Pro | Ile | Asn | Asn | Lys | 100 | 105 | 110 |
| Asp | Leu | Phe | Ala | Cys | Lys | Arg | Ile | Leu | Leu | Lys | Ala | Lys | Ala | Leu | Asp | 115 | 120 | 125 |
| Tyr | Ile | Asn | Ala | Ser | Val | Ala | Gly | Gly | Ser | Asp | Phe | Leu | Asn | Asp | Tyr | 130 | 135 | 140 |
| Val | Leu | Lys | Tyr | Ser | Glu | Arg | Tyr | Glu | Thr | Arg | Arg | Arg | Val | Gln | Ser | 145 | 150 | 155 |
| Thr | Gly | Arg | Ala | Lys | Ala | Ala | Phe | Asp | Glu | Asp | Gly | Asn | Ile | Ser | Asn | 165 | 170 | 175 |
| Val | Lys | Ser | Asp | Thr | Asp | Arg | Asp | Ala | Glu | Thr | Val | Thr | Gln | Asn | Glu | 180 | 185 | 190 |
| Asp | Ala | Asp | Arg | Asn | Asn | Ser | Ser | Arg | Ile | Asn | Leu | Gln | Asp | Ile | Cys | 195 | 200 | 205 |
| Lys | Asp | Leu | Asn | Gln | Glu | Gly | Asp | Asp | Gln | Met | Phe | Val | Arg | Lys | Thr | 210 | 215 | 220 |
| Ser | Arg | Glu | Ile | Gln | Gly | Gln | Asn | Arg | Arg | Asn | Leu | Ile | His | Glu | Asp | 225 | 230 | 235 |
| Ile | Ala | Lys | Ala | Ile | Lys | Gln | Leu | Trp | Asn | Asn | Asp | Lys | Gly | Ile | Lys | 245 | 250 | 255 |
| Gln | Cys | Phe | Ala | Arg | Ser | Asn | Glu | Phe | Gln | Leu | Glu | Gly | Ser | Ala | Ala | 260 | 265 | 270 |
| Tyr | Tyr | Phe | Asp | Asn | Ile | Glu | Lys | Phe | Ala | Ser | Pro | Asn | Tyr | Val | Cys | 275 | 280 | 285 |
| Thr | Asp | Glu | Asp | Ile | Leu | Lys | Gly | Arg | Ile | Lys | Thr | Thr | Gly | Ile | Thr | 290 | 295 | 300 |
| Glu | Thr | Glu | Phe | Asn | Ile | Gly | Ser | Ser | Lys | Phe | Lys | Val | Leu | Asp | Ala | 305 | 310 | 315 |
| Gly | Gly | Gln | Arg | Ser | Glu | Arg | Lys | Lys | Trp | Ile | His | Cys | Phe | Glu | Gly | 325 | 330 | 335 |
| Ile | Thr | Ala | Val | Leu | Phe | Val | Leu | Ala | Met | Ser | Glu | Tyr | Asp | Gln | Met | 340 | 345 | 350 |
| Leu | Phe | Glu | Asp | Glu | Arg | Val | Asn | Arg | Met | His | Glu | Ser | Ile | Met | Leu | 355 | 360 | 365 |
| Phe | Asp | Thr | Leu | Leu | Asn | Ser | Lys | Trp | Phe | Lys | Asp | Thr | Pro | Phe | Ile | 370 | 375 | 380 |

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
 385 390 395 400  
 Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
 405 410 415  
 Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
 420 425 430  
 Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
 435 440 445  
 Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
 450 455 460  
 Asn Leu Lys Tyr Ile Gly Leu Cys  
 465 470

<210> 113  
 <211> 472  
 <212> PRT  
 <213> Chimaera sp.

<400> 113

Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
 1 5 10 15  
 Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
 20 25 30  
 Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly  
 35 40 45  
 Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
 50 55 60  
 His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val  
 65 70 75 80  
 Ile Trp Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala  
 85 90 95  
 Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys  
 100 105 110  
 Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp  
 115 120 125  
 Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr  
 130 135 140  
 Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser  
 145 150 155 160  
 Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn  
 165 170 175

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Lys | Ser | Asp | Thr | Asp | Arg | Asp | Ala | Glu | Thr | Val | Thr | Gln | Asn | Glu |
|     |     |     | 180 |     |     |     |     |     | 185 |     |     | 190 |     |     |     |
| Asp | Ala | Asp | Arg | Asn | Asn | Ser | Ser | Arg | Ile | Asn | Leu | Gln | Asp | Ile | Cys |
|     |     |     | 195 |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Lys | Asp | Leu | Asn | Gln | Glu | Gly | Asp | Asp | Gln | Met | Phe | Val | Arg | Lys | Thr |
|     |     |     | 210 |     |     | 215 |     |     | 220 |     |     |     |     |     |     |
| Ser | Arg | Glu | Ile | Gln | Gly | Gln | Asn | Arg | Arg | Asn | Leu | Ile | His | Glu | Asp |
| 225 |     |     | 230 |     |     | 235 |     |     | 240 |     |     |     |     |     |     |
| Ile | Ala | Lys | Ala | Ile | Lys | Gln | Leu | Trp | Asn | Asn | Asp | Lys | Gly | Ile | Lys |
|     |     |     | 245 |     |     | 250 |     |     | 255 |     |     |     |     |     |     |
| Gln | Cys | Phe | Ala | Arg | Ser | Asn | Glu | Phe | Gln | Leu | Glu | Gly | Ser | Ala | Ala |
|     |     |     | 260 |     |     | 265 |     |     | 270 |     |     |     |     |     |     |
| Tyr | Tyr | Phe | Asp | Asn | Ile | Glu | Lys | Phe | Ala | Ser | Pro | Asn | Tyr | Val | Cys |
|     |     |     | 275 |     |     | 280 |     |     | 285 |     |     |     |     |     |     |
| Thr | Asp | Glu | Asp | Ile | Leu | Lys | Gly | Arg | Ile | Lys | Thr | Thr | Gly | Ile | Thr |
|     |     |     | 290 |     |     | 295 |     |     | 300 |     |     |     |     |     |     |
| Glu | Thr | Glu | Phe | Asn | Ile | Gly | Ser | Ser | Lys | Phe | Lys | Val | Leu | Asp | Ala |
| 305 |     |     | 310 |     |     | 315 |     |     | 320 |     |     |     |     |     |     |
| Gly | Gly | Gln | Arg | Ser | Glu | Arg | Lys | Lys | Trp | Ile | His | Cys | Phe | Glu | Gly |
|     |     |     | 325 |     |     | 330 |     |     | 335 |     |     |     |     |     |     |
| Ile | Thr | Ala | Val | Leu | Phe | Val | Leu | Ala | Met | Ser | Glu | Tyr | Asp | Gln | Met |
|     |     |     | 340 |     |     | 345 |     |     | 350 |     |     |     |     |     |     |
| Leu | Phe | Glu | Asp | Glu | Arg | Val | Asn | Arg | Met | His | Glu | Ser | Ile | Met | Leu |
|     |     |     | 355 |     |     | 360 |     |     | 365 |     |     |     |     |     |     |
| Phe | Asp | Thr | Leu | Leu | Asn | Ser | Lys | Trp | Phe | Lys | Asp | Thr | Pro | Phe | Ile |
|     |     |     | 370 |     |     | 375 |     |     | 380 |     |     |     |     |     |     |
| Leu | Phe | Leu | Asn | Lys | Ile | Asp | Leu | Phe | Glu | Glu | Lys | Val | Lys | Ser | Met |
| 385 |     |     | 390 |     |     | 395 |     |     | 400 |     |     |     |     |     |     |
| Pro | Ile | Arg | Lys | Tyr | Phe | Pro | Asp | Tyr | Gln | Gly | Arg | Val | Gly | Asp | Ala |
|     |     |     | 405 |     |     | 410 |     |     | 415 |     |     |     |     |     |     |
| Glu | Ala | Gly | Leu | Lys | Tyr | Phe | Glu | Lys | Ile | Phe | Leu | Ser | Leu | Asn | Lys |
|     |     |     | 420 |     |     | 425 |     |     | 430 |     |     |     |     |     |     |
| Thr | Asn | Lys | Pro | Ile | Tyr | Val | Lys | Arg | Thr | Cys | Ala | Thr | Asp | Thr | Gln |
|     |     |     | 435 |     |     | 440 |     |     | 445 |     |     |     |     |     |     |
| Thr | Met | Lys | Phe | Val | Leu | Ser | Ala | Val | Thr | Asp | Leu | Ile | Ile | Gln | Gln |
|     |     |     | 450 |     |     | 455 |     |     | 460 |     |     |     |     |     |     |
| Asn | Leu | Lys | Gly | Cys | Gly | Leu | Tyr |     |     |     |     |     |     |     |     |
| 465 |     |     | 470 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 114  
<211> 472  
<212> PRT  
<213> Chimaera sp.

<400> 114

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Cys | Thr | Val | Ser | Thr | Gln | Thr | Ile | Gly | Asp | Glu | Ser | Asp | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Leu | Gln | Asn | Lys | Arg | Ala | Asn | Asp | Val | Ile | Glu | Gln | Ser | Leu | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Glu | Lys | Gln | Arg | Asp | Lys | Asn | Glu | Ile | Lys | Leu | Leu | Leu | Leu | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Gly | Glu | Ser | Gly | Lys | Ser | Thr | Val | Leu | Lys | Gln | Leu | Lys | Leu | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Gln | Gly | Gly | Phe | Ser | His | Gln | Glu | Arg | Leu | Gln | Tyr | Ala | Gln | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Trp | Ala | Asp | Ala | Ile | Gln | Ser | Met | Lys | Ile | Leu | Ile | Ile | Gln | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |
| Arg | Lys | Leu | Gly | Ile | Gln | Leu | Asp | Cys | Asp | Asp | Pro | Ile | Asn | Asn | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Leu | Phe | Ala | Cys | Lys | Arg | Ile | Leu | Leu | Lys | Ala | Lys | Ala | Leu | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Tyr | Ile | Asn | Ala | Ser | Val | Ala | Gly | Gly | Ser | Asp | Phe | Leu | Asn | Asp | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Leu | Lys | Tyr | Ser | Glu | Arg | Tyr | Glu | Thr | Arg | Arg | Arg | Val | Gln | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Gly | Arg | Ala | Lys | Ala | Ala | Phe | Asp | Glu | Asp | Gly | Asn | Ile | Ser | Asn |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Lys | Ser | Asp | Thr | Asp | Arg | Asp | Ala | Glu | Thr | Val | Thr | Gln | Asn | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Ala | Asp | Arg | Asn | Asn | Ser | Ser | Arg | Ile | Asn | Leu | Gln | Asp | Ile | Cys |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Asp | Leu | Asn | Gln | Glu | Gly | Asp | Asp | Gln | Met | Phe | Val | Arg | Lys | Thr |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Arg | Glu | Ile | Gln | Gly | Gln | Asn | Arg | Arg | Asn | Leu | Ile | His | Glu | Asp |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Ala | Lys | Ala | Ile | Lys | Gln | Leu | Trp | Asn | Asn | Asp | Lys | Gly | Ile | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gln | Cys | Phe | Ala | Arg | Ser | Asn | Glu | Phe | Gln | Leu | Glu | Gly | Ser | Ala | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Tyr | Tyr | Phe | Asp | Asn | Ile | Glu | Lys | Phe | Ala | Ser | Pro | Asn | Tyr | Val | Cys |

| 275  | 280 | 285 |
|--|-----|-----|
| Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr<br>290 295 300     |     |     |
| Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala<br>305 310 315 320 |     |     |
| Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly<br>325 330 335     |     |     |
| Ile Thr Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met<br>340 345 350     |     |     |
| Leu Phe Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu<br>355 360 365     |     |     |
| Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile<br>370 375 380     |     |     |
| Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met<br>385 390 395 400 |     |     |
| Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala<br>405 410 415     |     |     |
| Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys<br>420 425 430     |     |     |
| Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln<br>435 440 445     |     |     |
| Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln<br>450 455 460     |     |     |
| Asn Leu Asp Glu Ile Asn Leu Leu<br>465 470   |     |     |

<210> 115  
 <211> 472  
 <212> PRT  
 <213> Chimaera sp.

<400> 115  
 Met Gly Cys Thr Val Ser Thr Gln Thr Ile Gly Asp Glu Ser Asp Pro  
 1 5 10 15  
 Phe Leu Gln Asn Lys Arg Ala Asn Asp Val Ile Glu Gln Ser Leu Gln  
 20 25 30  
 Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Gly  
 35 40 45  
 Ala Gly Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu  
 50 55 60  
 His Gln Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val



| 65              | 70                  | 75                  | 80              |
|-----------------|---------------------|---------------------|-----------------|
| Ile Trp Ala Asp | Ala Ile Gln Ser Met | Lys Ile Leu Ile Ile | Gln Ala         |
|                 | 85                  | 90                  | 95              |
| Arg Lys Leu Gly | Ile Gln Leu Asp     | Cys Asp Asp Pro     | Ile Asn Asn Lys |
|                 | 100                 | 105                 | 110             |
| Asp Leu Phe Ala | Cys Lys Arg Ile     | Leu Leu Lys Ala     | Lys Ala Leu Asp |
|                 | 115                 | 120                 | 125             |
| Tyr Ile Asn Ala | Ser Val Ala Gly     | Gly Ser Asp Phe     | Leu Asn Asp Tyr |
|                 | 130                 | 135                 | 140             |
| Val Leu Lys Tyr | Ser Glu Arg Tyr     | Glu Thr Arg Arg     | Val Gln Ser     |
|                 | 145                 | 150                 | 155             |
| Thr Gly Arg Ala | Lys Ala Ala Phe     | Asp Glu Asp Gly     | Asn Ile Ser Asn |
|                 | 165                 | 170                 | 175             |
| Val Lys Ser Asp | Thr Asp Arg Asp     | Ala Glu Thr Val     | Thr Gln Asn Glu |
|                 | 180                 | 185                 | 190             |
| Asp Ala Asp Arg | Asn Asn Ser Ser     | Arg Ile Asn Leu     | Gln Asp Ile Cys |
|                 | 195                 | 200                 | 205             |
| Lys Asp Leu Asn | Gln Glu Gly Asp     | Asp Gln Met Phe     | Val Arg Lys Thr |
|                 | 210                 | 215                 | 220             |
| Ser Arg Glu Ile | Gln Gly Gln Asn     | Arg Arg Asn Leu     | Ile His Glu Asp |
|                 | 225                 | 230                 | 235             |
| Ile Ala Lys Ala | Ile Lys Gln Leu     | Trp Asn Asn Asp     | Lys Gly Ile Lys |
|                 | 245                 | 250                 | 255             |
| Gln Cys Phe Ala | Arg Ser Asn Glu     | Phe Gln Leu Glu     | Gly Ser Ala Ala |
|                 | 260                 | 265                 | 270             |
| Tyr Tyr Phe Asp | Asn Ile Glu Lys     | Phe Ala Ser Pro     | Asn Tyr Val Cys |
|                 | 275                 | 280                 | 285             |
| Thr Asp Glu Asp | Ile Leu Lys Gly     | Arg Ile Lys Thr     | Thr Gly Ile Thr |
|                 | 290                 | 295                 | 300             |
| Glu Thr Glu Phe | Asn Ile Gly Ser     | Ser Lys Phe Lys     | Val Leu Asp Ala |
|                 | 305                 | 310                 | 315             |
| Gly Gly Gln Arg | Ser Glu Arg Lys     | Lys Trp Ile His     | Cys Phe Glu Gly |
|                 | 325                 | 330                 | 335             |
| Ile Thr Ala Val | Leu Phe Val Leu     | Ala Met Ser Glu     | Tyr Asp Gln Met |
|                 | 340                 | 345                 | 350             |
| Leu Phe Glu Asp | Glu Arg Val Asn     | Arg Met His Glu     | Ser Ile Met Leu |
|                 | 355                 | 360                 | 365             |
| Phe Asp Thr Leu | Leu Asn Ser Lys     | Trp Phe Lys Asp     | Thr Pro Phe Ile |
|                 | 370                 | 375                 | 380             |

Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met  
 385 390 395 400

Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala  
 405 410 415

Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys  
 420 425 430

Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln  
 435 440 445

Thr Met Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln  
 450 455 460

Asn Leu Arg Gln Tyr Glu Leu Leu  
 465 470

<210> 116  
 <211> 67  
 <212> DNA  
 <213> Chimaera sp.

<400> 116  
 acgtggtctc ccatgacttt ggaatctatt atggcttggt gtcttagtac gcaaacaata 60  
 ggagacg 67

<210> 117  
 <211> 21  
 <212> DNA  
 <213> Chimaera sp.

<400> 117  
 gtatctttga accacttaga g 21

<210> 118  
 <211> 478  
 <212> PRT  
 <213> Chimaera sp.

<400> 118  
 Met Thr Leu Glu Ser Ile Met Ala Cys Cys Leu Ser Thr Gln Thr Ile  
 1 5 10 15

Gly Asp Glu Ser Asp Pro Phe Leu Gln Asn Lys Arg Ala Asn Asp Val  
 20 25 30

Ile Glu Gln Ser Leu Gln Leu Glu Lys Gln Arg Asp Lys Asn Glu Ile  
 35 40 45

Lys Leu Leu Leu Leu Gly Ala Gly Glu Ser Gly Lys Ser Thr Val Leu  
 50 55 60

Lys Gln Leu Lys Leu Leu His Gln Gly Gly Phe Ser His Gln Glu Arg  
 65 70 75 80

Leu Gln Tyr Ala Gln Val Ile Trp Ala Asp Ala Ile Gln Ser Met Lys  
                     85                    90                    95

Ile Leu Ile Ile Gln Ala Arg Lys Leu Gly Ile Gln Leu Asp Cys Asp  
                     100                    105                    110

Asp Pro Ile Asn Asn Lys Asp Leu Phe Ala Cys Lys Arg Ile Leu Leu  
                     115                    120                    125

Lys Ala Lys Ala Leu Asp Tyr Ile Asn Ala Ser Val Ala Gly Gly Ser  
                     130                    135                    140

Asp Phe Leu Asn Asp Tyr Val Leu Lys Tyr Ser Glu Arg Tyr Glu Thr  
 145                    150                    155                    160

Arg Arg Arg Val Gln Ser Thr Gly Arg Ala Lys Ala Ala Phe Asp Glu  
                     165                    170                    175

Asp Gly Asn Ile Ser Asn Val Lys Ser Asp Thr Asp Arg Asp Ala Glu  
                     180                    185                    190

Thr Val Thr Gln Asn Glu Asp Ala Asp Arg Asn Asn Ser Ser Arg Ile  
                     195                    200                    205

Asn Leu Gln Asp Ile Cys Lys Asp Leu Asn Gln Glu Gly Asp Asp Gln  
                     210                    215                    220

Met Phe Val Arg Lys Thr Ser Arg Glu Ile Gln Gly Gln Asn Arg Arg  
 225                    230                    235                    240

Asn Leu Ile His Glu Asp Ile Ala Lys Ala Ile Lys Gln Leu Trp Asn  
                     245                    250                    255

Asn Asp Lys Gly Ile Lys Gln Cys Phe Ala Arg Ser Asn Glu Phe Gln  
                     260                    265                    270

Leu Glu Gly Ser Ala Ala Tyr Tyr Phe Asp Asn Ile Glu Lys Phe Ala  
                     275                    280                    285

Ser Pro Asn Tyr Val Cys Thr Asp Glu Asp Ile Leu Lys Gly Arg Ile  
                     290                    295                    300

Lys Thr Thr Gly Ile Thr Glu Thr Glu Phe Asn Ile Gly Ser Ser Lys  
 305                    310                    315                    320

Phe Lys Val Leu Asp Ala Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp  
                     325                    330                    335

Ile His Cys Phe Glu Gly Ile Thr Ala Val Leu Phe Val Leu Ala Met  
                     340                    345                    350

Ser Glu Tyr Asp Gln Met Leu Phe Glu Asp Glu Arg Val Asn Arg Met  
                     355                    360                    365

His Glu Ser Ile Met Leu Phe Asp Thr Leu Leu Asn Ser Lys Trp Phe  
                     370                    375                    380

Lys Asp Thr Pro Phe Ile Leu Phe Leu Asn Lys Ile Asp Leu Phe Glu

|   |     |     |  |     |  |     |
|---|-----|-----|--|-----|--|-----|
| 385   |     | 390 |  | 395 |  | 400 |
| Glu Lys Val Lys Ser Met Pro Ile Arg Lys Tyr Phe Pro Asp Tyr Gln |     |     |  |     |  |     |
|   | 405 |     |  | 410 |  | 415 |
| Gly Arg Val Gly Asp Ala Glu Ala Gly Leu Lys Tyr Phe Glu Lys Ile |     |     |  |     |  |     |
|   | 420 |     |  | 425 |  | 430 |
| Phe Leu Ser Leu Asn Lys Thr Asn Lys Pro Ile Tyr Val Lys Arg Thr |     |     |  |     |  |     |
|   | 435 |     |  | 440 |  | 445 |
| Cys Ala Thr Asp Thr Gln Thr Met Lys Phe Val Leu Ser Ala Val Thr |     |     |  |     |  |     |
|   | 450 |     |  | 455 |  | 460 |
| Asp Leu Ile Ile Gln Gln Asn Leu Lys Glu Tyr Asn Leu Val         |     |     |  |     |  |     |
| 465   |     | 470 |  | 475 |  |     |

<210> 119  
 <211> 23  
 <212> DNA  
 <213> Chimaera sp.

<400> 119  
 gtctaaaatg aagaggatag tag 23

<210> 120  
 <211> 38  
 <212> DNA  
 <213> Chimaera sp.

<400> 120  
 gatccgtctc acttcagaaa gacaacaagc cataatag 38

<210> 121  
 <211> 63  
 <212> DNA  
 <213> Chimaera sp.

<400> 121  
 gatccgtctc tgaagaagct aaggaggcta gaagaattaa tgatgtcatc gagcaatcgt 60  
 tgc 63

<210> 122  
 <211> 21  
 <212> DNA  
 <213> Chimaera sp.

<400> 122  
 gtatctttga accacttaga g 21

<210> 123  
 <211> 470  
 <212> PRT  
 <213> Chimaera sp.

<400> 123  
 Met Thr Leu Glu Ser Ile Met Ala Cys Cys Leu Ser Glu Glu Ala Lys

| 1   | 5   | 10  | 15  |
|---|-----|-----|-----|
| Glu Ala Arg Arg Ile Asn Asp Val Ile Glu Gln Ser Leu Gln Leu Glu | 20  | 25  | 30  |
| Lys Gln Arg Asp Lys Asn Glu Ile Lys Leu Leu Leu Leu Gly Ala Gly | 35  | 40  | 45  |
| Glu Ser Gly Lys Ser Thr Val Leu Lys Gln Leu Lys Leu Leu His Gln | 50  | 55  | 60  |
| Gly Gly Phe Ser His Gln Glu Arg Leu Gln Tyr Ala Gln Val Ile Trp | 65  | 70  | 75  |
| Ala Asp Ala Ile Gln Ser Met Lys Ile Leu Ile Ile Gln Ala Arg Lys | 85  | 90  | 95  |
| Leu Gly Ile Gln Leu Asp Cys Asp Asp Pro Ile Asn Asn Lys Asp Leu | 100 | 105 | 110 |
| Phe Ala Cys Lys Arg Ile Leu Leu Lys Ala Lys Ala Leu Asp Tyr Ile | 115 | 120 | 125 |
| Asn Ala Ser Val Ala Gly Gly Ser Asp Phe Leu Asn Asp Tyr Val Leu | 130 | 135 | 140 |
| Lys Tyr Ser Glu Arg Tyr Glu Thr Arg Arg Arg Val Gln Ser Thr Gly | 145 | 150 | 155 |
| Arg Ala Lys Ala Ala Phe Asp Glu Asp Gly Asn Ile Ser Asn Val Lys | 165 | 170 | 175 |
| Ser Asp Thr Asp Arg Asp Ala Glu Thr Val Thr Gln Asn Glu Asp Ala | 180 | 185 | 190 |
| Asp Arg Asn Asn Ser Ser Arg Ile Asn Leu Gln Asp Ile Cys Lys Asp | 195 | 200 | 205 |
| Leu Asn Gln Glu Gly Asp Asp Gln Met Phe Val Arg Lys Thr Ser Arg | 210 | 215 | 220 |
| Glu Ile Gln Gly Gln Asn Arg Arg Asn Leu Ile His Glu Asp Ile Ala | 225 | 230 | 235 |
| Lys Ala Ile Lys Gln Leu Trp Asn Asn Asp Lys Gly Ile Lys Gln Cys | 245 | 250 | 255 |
| Phe Ala Arg Ser Asn Glu Phe Gln Leu Glu Gly Ser Ala Ala Tyr Tyr | 260 | 265 | 270 |
| Phe Asp Asn Ile Glu Lys Phe Ala Ser Pro Asn Tyr Val Cys Thr Asp | 275 | 280 | 285 |
| Glu Asp Ile Leu Lys Gly Arg Ile Lys Thr Thr Gly Ile Thr Glu Thr | 290 | 295 | 300 |
| Glu Phe Asn Ile Gly Ser Ser Lys Phe Lys Val Leu Asp Ala Gly Gly | 305 | 310 | 315 |
|   |     |     | 320 |

Gln Arg Ser Glu Arg Lys Lys Trp Ile His Cys Phe Glu Gly Ile Thr  
325 330 335

Ala Val Leu Phe Val Leu Ala Met Ser Glu Tyr Asp Gln Met Leu Phe  
340 345 350

Glu Asp Glu Arg Val Asn Arg Met His Glu Ser Ile Met Leu Phe Asp  
355 360 365

Thr Leu Leu Asn Ser Lys Trp Phe Lys Asp Thr Pro Phe Ile Leu Phe  
370 375 380

Leu Asn Lys Ile Asp Leu Phe Glu Glu Lys Val Lys Ser Met Pro Ile  
385 390 395 400

Arg Lys Tyr Phe Pro Asp Tyr Gln Gly Arg Val Gly Asp Ala Glu Ala  
405 410 415

Gly Leu Lys Tyr Phe Glu Lys Ile Phe Leu Ser Leu Asn Lys Thr Asn  
420 425 430

Lys Pro Ile Tyr Val Lys Arg Thr Cys Ala Thr Asp Thr Gln Thr Met  
435 440 445

Lys Phe Val Leu Ser Ala Val Thr Asp Leu Ile Ile Gln Gln Asn Leu  
450 455 460

Lys Glu Tyr Asn Leu Val  
465 470